EXHIBIT A
LISTING OF ALL CLAIMS AND AMENDMENTS
(09-07-2006)

Amendments to the claims:

Claim 1 (currently amended)

1. A drop hammer for driving a pile comprising:

a housing member defining a housing chamber and a vent port arranged between the lower and upper positions, where the vent port defines a preload position, and allows ambient air to flow into and out of the housing chamber under predetermined conditions;

a ram member supported within the housing chamber for movement relative to the housing member between an upper position and a lower position;

a helmet member supported by the housing member for movement relative to the housing member between a rest position and an impact position; and

a lifting assembly at least partly disposed within the housing chamber above the ram member~~, where the lifting assembly lifts the ram member from the lower position to the upper position during each cycle~~; whereby

the ram member moves from the lower position to the upper position and back to the lower position to define an operating cycle;

the lifting assembly engages and lifts the ram member from the lower position to the upper position once during each operating cycle;

when the lifting system raises the ram member above the preload position, ambient air flows into the housing chamber;

when the ram member falls below the preload position, ambient air within a preload chamber portion of the housing chamber compresses to apply a preload force on the inner portion of the helmet member; and

when the ram member moves into the lower position, the ram member impacts the helmet member to force the helmet member from the rest position to the impact position, thereby driving the pile.

Claims 2 and 3 (previously presented)

Claim 4 (previously presented)

4. A drop hammer as recited in claim 1, in which ambient air is prevented from flowing through the vent port when the ram member is below the preload position.

Claim 5 (original)

5. A drop hammer as recited in claim 4, further comprising a seal system for sealing the preload chamber portion of the housing chamber when the ram member is below the preload position.

Claim 6 (original)

6. A drop hammer as recited in claim 5, in which:

the ram member defines a ram side wall;

the housing member defines a housing interior wall;

the seal system comprises a ram seal for inhibiting fluid flow between the ram side wall and the housing interior wall.

Claim 7 (previously presented)

Claim 8 (previously presented)

8. A drop hammer as recited in claim 5, further in which:

the impact of the ram member is transmitted to the pile through the helmet member;

the helmet member extends through a helmet opening formed in the housing member; and

the seal system comprises a helmet seal for inhibiting fluid flow between the helmet member and the housing member through the helmet opening.

Claim 9 (original)

9. A drop hammer as recited in claim 8, in which:

the ram member defines a ram side wall;

the housing member defines a housing interior wall;

the seal system comprises a ram seal for inhibiting fluid flow between the ram side wall and the housing interior wall.

Claims 10 and 11 (previously presented)

Claim 12 (previously presented)

12. A drop hammer as recited in claim 1, further comprising a clamp assembly for securing the helmet member to the pile.

Claim 13 (currently amended)

13. A method of driving a pile comprising:

providing a housing member defining a housing chamber;

forming a vent port between the lower and upper positions, where the vent port

defines a preload position, and

allows ambient air to flow into and out of the housing chamber under predetermined conditions;

supporting a helmet member from the housing member for movement relative to the housing member between a rest position and an impact position;

supporting a ram member within the housing chamber for movement relative to the housing member between an upper position and a lower position;

connecting the helmet member to the pile;

arranging at least a portion of a lifting assembly above the ram member within the housing chamber;

operating the lifting assembly to engage the ram member and raise the ram member from the lower position into the upper position to define a first portion of an operating cycle;

disengaging the lifting assembly from the ram member to allow the ram member to fall from the upper position to the lower position to define a second portion of the operating cycle;

~~such that the impact of~~ causing the ram member to impact the helmet member during the second portion of the operating cycle such that the ram member forces the helmet member from the rest position to the impact position, thereby driving the pile;

while the ram member is above a preload position, allowing ambient air to flow out of a preload chamber portion of the housing chamber defined by the housing member; and

while the ram member is below the preload position, substantially preventing ambient air from flowing out of a preload chamber portion of the housing chamber, where ambient air within the preload chamber portion of the housing chamber compresses as the ram member moves from the preload position to the lower position to apply a preload force on the helmet member prior to impact of the ram member on the helmet member.

Claim 14 (previously presented)

Claim 15 (original)

15. A method as recited in claim 13, further comprising the step of sealing the preload chamber portion of the housing chamber when the ram member is below the preload position.

Claims 16 and 17 (previously presented)

Claim 18 (currently amended)

18. A drop hammer for driving a pile comprising:

a housing member defining a housing chamber and a vent port between the lower and upper positions;

a ram member supported within the housing chamber for movement relative to the housing member between an upper position and a lower position; and

a helmet member supported by the housing member for movement relative to the housing member between a rest position and an impact position; and

a lifting assembly at least partly disposed within the housing chamber above the ram member ~~for raising the ram member from the lower position to the upper position during each cycle~~; whereby

the ram member moves from the lower position to the upper position and back to the lower position to define an operating cycle;

the lifting assembly engages and lifts the ram member from the lower position to the upper position once during each operating cycle;

as the ram member falls from the upper position to a preload position defined by the vent port, ambient air exits the housing chamber through the vent port;

when the ram member falls below the preload position, the housing chamber is sealed such that ambient air within a preload chamber portion of the housing chamber below the vent port compresses as the ram member moves into the lower position to apply a preload force on the helmet member; and

when the ram member moves into the lower position, the impact of the ram member on the helmet member drives the pile.

Claim 19 (original)

19. A drop hammer as recited in claim 18, further comprising seal system for sealing the preload chamber portion of the housing chamber when the ram member is below the preload position.

Claim 20 (previously presented)

Claim 21 (original)

21. A drop hammer as recited in claim 18, further comprising a clamp assembly for securing the helmet member to the pile.